

Serial No.: 09/842,496
Response to OA of 12/15/2004

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of the claims:

1. (original) A computer-enabled workflow process system, comprising:
 - a node group database that stores a group of work nodes referred to by a generic node, wherein a work node defines a workflow action and data items to be read and written when executing the workflow action;
 - a workflow engine that executes a workflow process having the generic node, wherein the workflow engine accesses the node group database for the group of work nodes when the generic node is to be executed so as to allow dynamic composition and modification of the workflow process.
2. (original) The system of claim 1, wherein work nodes can be added to or removed from the node group dynamically without requiring the workflow process to be redefined.
3. (original) The system of claim 1, wherein the node group database stores a plurality of groups of work nodes, each being referred to by at least one generic node.
4. (original) The system of claim 3, wherein each generic node can refer to more than one group of work nodes.
5. (original) The system of claim 1, wherein the workflow engine further comprises
 - a static instance manager that manages execution of work nodes within the workflow process;
 - an adaptive instance manager that accesses the node group database for the group of work nodes to replace the generic node.
6. (original) The system of claim 5, wherein the adaptive instance manager receives attributes of the generic node to determine which work nodes within the group are to replace the generic node.

Serial No.: 09/842,496
Response to OA of 12/15/2004

7. (original) The system of claim 5, wherein the adaptive instance manager further comprises

a first set of instructions that receive attributes of the generic node from the group of work nodes;

a second set of instructions that determine which work nodes within the group are described by the generic node;

a third set of instructions that replace the generic node with all of the work nodes within the group that are described by the generic node.

8. (original) In a workflow process management system, a computer-implemented method of executing a workflow process having at least a generic node, comprising

storing a group of work nodes corresponding to the generic node in a node group database, wherein the node group database stores a plurality of groups of work nodes, wherein a work node defining a workflow action and data items to be read and written when executing the workflow action;

accessing the node group database for the group of work nodes when the generic node is to be executed;

executing work nodes in the group such that the workflow process can be dynamically composed and modified without requiring that the workflow process be redefined.

9. (original) The method of claim 8, wherein work nodes can be added to or removed from the group without redefining its corresponding workflow process.

10. (original) The method of claim 8, further comprising the step of determining when the generic node in the workflow process is to be executed.

11. (withdrawn) In a workflow process management system, a computer-implemented method of compiling a workflow process having a plurality of nodes, comprising (A) determining if a node is a generic node; (B) compiling the generic node if the node is a

Serial No.: 09/842,496
Response to OA of 12/15/2004

generic node; (C) if the node is a work node, compiling the work node; (D) repeating the steps (A) through (C) if more nodes in the workflow process need to be compiled.

12. (withdrawn) The method of claim 11, wherein the step (B) further comprises the step of checking correctness of the generic node while compiling to avoid run-time errors.

13. (withdrawn) The method of claim 12, wherein the step (B) further comprises the steps of retrieving attributes of the generic node; retrieving from the node group database a definition of the group; causing the compilation of the generic node to be proceeded if data items from the group are a subset of data items of the workflow process.

14. (withdrawn) The method of claim 11, wherein the step (C) further comprises the step of checking correctness of the work node while compiling.

15. (new) The system of claim 1, wherein one of the work nodes defines a workflow action of collecting data for the workflow process.

16. (new) The system of claim 1, wherein the workflow process defines a moving service.

17. (new) The system of claim 1, wherein the workflow process is an automation of a business process during which documents and information are passed from one participant to another participant.

18. (new) The system of claim 1, wherein at least one work flow node replaces the generic node during execution of the workflow process.

19. (new) The system of claim 1, wherein attributes in the generic node govern which work nodes within the group of work nodes will replace the generic node during execution of the workflow process.

Serial No.: 09/842,496
Response to OA of 12/15/2004

20. (new) The system of claim 1, wherein the node group database includes workflow actions that specify different shipping services.
21. (new) The method of claim 8, further comprising collecting data with one of the work nodes during execution of the workflow process.
22. (new) The method of claim 8, wherein the workflow process defines a moving service.
23. (new) The method of claim 8, further comprising exchanging documents and information during the workflow process.
24. (new) The method of claim 8, further comprising replacing the generic node with a work flow node during execution of the workflow process.
25. (new) The method of claim 8, further comprising specifying, in attributes in the generic node, which work nodes within the group of work nodes will replace the generic node during execution of the workflow process.
26. (new) The method of claim 8, wherein the node group database includes workflow actions that specify different shipping services.
27. (new) A computer-enabled workflow process system, comprising:
 - a node group database that stores plural work nodes, wherein each work node defines a different workflow action;
 - a generic node having attributes that identify which work nodes are activated to replace the generic node during execution of a workflow process; and
 - a workflow engine that executes the workflow process having the generic node, wherein the workflow engine accesses the node group database to replace the generic node with at least one work node and to initiate the workflow action of the at least one work node.

Serial No.: 09/842,496
Response to OA of 12/15/2004

28. (new) The system of claim 27, wherein plural work nodes are activated to replace the generic node during execution of the workflow process.

29. (new) The system of claim 28, wherein the plural work nodes activated to replace the generic node are executed in parallel.

30. (new) The system of claim 28, wherein the plural work nodes activated to replace the generic node are sequentially executed.

31. (new) The system of claim 27, wherein values of the attributes are set at runtime by a previously executed work node.

32. (new) The system of claim 27, wherein the workflow actions include moving services.

33. (new) The system of claim 27, wherein the work nodes include airline shipment and railway shipment.

34. (new) The system of claim 27, wherein work nodes in the node group database specify services that are performed by third parties during execution of the workflow process.

35. (new) In a workflow process management system, a computer-implemented method of executing a workflow process, comprising:

storing a group of work nodes and at least one generic node in a database, wherein each work node defines a different workflow service that is performed during execution of the workflow process;

specifying attributes in the generic node that identify which work nodes are activated to replace the generic node during execution of a workflow process;

replacing the generic node with at least one work node;

Serial No.: 09/842,496
Response to OA of 12/15/2004

executing the at least one work node that replaced the generic node during execution of the workflow process; and

adding new work nodes to the group of work nodes without modifying the workflow process.

36. (new) The method of claim 35 further comprising removing work nodes from the group of work nodes without redefining the workflow process.